

IN THE CLAIMS

1-18. Cancelled.

19. (New) A system for monitoring a condition of a component on a vehicle, comprising:
at least one sensor device that indicates a condition of a selected component on the vehicle; and
a controller that communicates with the sensor device and determines when the selected component may require attention.

20. (New) The system of claim 19, wherein the controller provides an indication to a vehicle operator that the selected component may require attention.

21. (New) The system of claim 19, including a visual display and wherein the controller provides a visual indication to the vehicle operator.

22. (New) The system of claim 21, wherein the controller provides the visual indication at least upon one of each vehicle start up or each vehicle shut down.

23. (New) The system of claim 21, wherein the controller provides the visual indication at a time when the controller determines that attention may be needed.

24. (New) The system of claim 20, wherein the controller provides an audible indication to the driver.

25. (New) The system of claim 19, wherein the controller alters a performance of the vehicle responsive to determining that the component requires immediate attention.

26. (New) The system of claim 19, wherein the sensor comprises an acoustic sensor that detects a noise associated with operation of the component and the controller determines whether a detected noise indicates that the component may require attention.

27. (New) The system of claim 26, wherein the controller accesses information regarding frequency and sound quality that distinguishes between acceptable noises and noises that are indicative of potential problems.

28. (New) The system of claim 19, wherein the sensor comprises at least one of a wheel speed sensor, a brake pressure monitor, a steering angle sensor or a heat sensor.

29. (New) The system of claim 19, wherein the controller determines a profile of component performance within a frequency domain.

30. (New) The system of claim 29, wherein the controller determines a three dimensional profile having six degrees of freedom and wherein the controller determines a signature of performance of the component for a driving condition, the signature being based upon performance of the component in at least one of the degrees of freedom.

31. (New) The system of claim 30, wherein the controller determines the driving condition corresponding to at least one of average vehicle speed, average vehicle weight or total sprung mass and utilizes the driving condition information when determining the component signature.

32. (New) The system of claim 31, wherein the controller determines an initial signature and compares the initial signature to a later-determined signature for the same component.

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33. (New) The system of claim 31, wherein the controller determines a first signature for a first component and a second signature for a second, similar component and wherein the controller compares the first and second signatures when determining the condition of at least one of the first and second components.
